

Report No: 16P0A0004\_I

# FSP084-DIBAN2

## with

# BOXER-6313

## Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> <b>Pass</b> <input type="checkbox"/> <b>Fail</b> <input type="checkbox"/> <b>Pass with Deviation</b> <b>Comment:</b>			
<b>Test Result Summary</b>				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	QE manager	Test Engineer
<b>02/16/2016</b>	<b>KJ Wang</b>	<b>Mike Lee</b>

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**1. Project**

FSP084-DIBAN2 AC-DC Adapter for BOXER-6313  
(Add FSP180-AAAN2 AC-DC Adapter , 24V , 7.5A , 180W for BOXER-6313)

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Ray Chang ; H/W : Sion Weng

**4. Test Equipment**

- 4.1. LCD Monitor : ASUS , Model : VE228H
- 4.2. PCB Board : AAEON , PBA-BT08 Rev A0.2\_0\_0
- 4.3. CPU : Intel ® Atom™ CPU E3845 @ 1.91GHz
- 4.4. HDD : WD 2.5" SATA 3 1TB - WD10SPCX
- 4.5. Memory : innodisk DDR3L 1600 W/T SODIMM 8GB (1508ZVR V73CBG04808RAJJ11I)

**5. AC Adapter Spec**

AC Input : 90VAC~264VAC / 47Hz~63Hz

DC Output : 12VDC Min Load : 0A Full Load : 7A / 84W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	1.3A	0.82A	PASS
	I/P:230VAC	0.8A	0.42A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	8.44A	-
	I/P:230VAC	A	8.36A	-
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	PASS
	I/P:90VAC/63HZ	■ON □ OFF	-	PASS
	I/P:264VAC/47HZ	■ON □ OFF	-	PASS
	I/P:264VAC/63HZ	■ON □ OFF	-	PASS
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	PASS
6.5. Efficiency	I/P:115VAC O/P:7 A	@88%Min Average Efficiency(for four Load)	88.868%	PASS
	I/P:230VAC O/P:7A	@88%MinAverage Efficiency(for four Load)	88.483%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±5%	0.058%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<±5%	-4.042%	PASS
	I/P:230VAC O/P:MIN~FULL LOAD	<±5%	-4%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 13~18 (MAX)	-	-
6.9. Over-Current Protection	O/P: 12V	10.5A(MAX)	8.8A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	150%	125%	PASS
	I/P:115VAC O/P:MIN LOAD	150%	125%	PASS
	I/P:230VAC O/P:MIN LOAD	150%	132%	PASS
	I/P:264VAC O/P:MIN LOAD	150%	132%	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	12V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	12V&GND Short	-	PASS

<b>6.12. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	$\leq 150\text{mv}$	46.9mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	36.9mv	PASS
<b>6.13. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	3S(MAX)	401ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	489ms	-
<b>6.14. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	20mS(MIN)	23.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	79.5ms	-
<b>6.15. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	27.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	25ms	-
<b>6.16. Turn on Overshoot</b>	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
<b>6.17. Turn off Undershoot</b>	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
<b>6.18. Power Consumption Test with AC Adapter</b>	No Run Prime95	I/P:100VAC 0.17A 8.3W	O/P : 12V/0.58A 6.96W	PASS
	Run Prime 95	I/P:100VAC 0.28A 13.6W	O/P : 12V/0.94A 11.28W	PASS
<b>6.19. Power Consumption Test with AC Adapter</b>	No Run Prime95	I/P:100VAC 0.42A 12.2W	O/P : 24V/0.43A 10.32W	PASS
	Run Prime 95	I/P:100VAC 0.55A 18.2W	O/P : 24V/0.64A 15.36W	PASS